WHAT IS CLAIMED IS:

1. A robot hand apparatus which includes:

a plurality of finger mechanisms each elongates from a base; and

a power source actuating each finger mechanism, the robot hand apparatus further comprising:

a plurality of finger mechanism actuation units for actuating each finger mechanism; and

a power transmission mechanism transmitting a power from the power source to at least two of said plurality of finger mechanisms at different timing.

2. A robot hand apparatus according to claim 1, wherein

the power source is a motor, and the finger mechanism actuation unit is a rotation roller which connects with the finger mechanism through a transmission unit, and

the power transmission mechanism includes:

a rotation axis which supports each rotation roller while allowing the rotation of the rotation roller and is rotated by the motor;

elastic devices, each is fixed to the rotation axis for holding the rotation roller at a predetermined position on the rotation axis, and wherein

each rotation roller rotates together with the rotation axis when the rotation roller is held at a predetermined

position on the rotation axis by the elastic device, and wherein

the degree of the deformation of each of elastic devices differs each other, when the finger mechanism is in a maximum grip state or in a maximum stretch state.

3. A robot hand apparatus according to claim 2, wherein the transmission unit is a link mechanism.

4. A robot hand apparatus according to claim 2 or claim 3, wherein

a plurality of contact-parts, each engages with and separates from a part of the corresponding rotation roller, are provided on the rotation axis.

5. A robot hand apparatus according to any one of claim 1 to claim 3, wherein

each finger mechanism is supported while allowing the turn in an approaching-and-separating direction with regard to the adjoining finger mechanism around a base-side section of the finger mechanism.

6. A robot hand apparatus according to claim 4, wherein

each finger mechanism is supported while allowing the turn in an approaching-and-separating direction with regard to the adjoining finger mechanism around a base-side section of the finger mechanism.

7. A robot hand apparatus according to any one of claim 1 to claim 3, wherein

the finger mechanism is held by an elastic device fixed to the base, and the finger mechanism is pushed by the elastic device in a direction apart from the adjoining finger mechanism.

8. A robot hand apparatus according to claim 4, wherein

the finger mechanism is held by an elastic device fixed to the base, and the finger mechanism is pushed by the elastic device in a direction apart from the adjoining finger mechanism.

9. A robot hand apparatus according to claim 5, wherein

the finger mechanism is held by an elastic device fixed to the base, and the finger mechanism is pushed by the elastic device in a direction apart from the adjoining finger mechanism.

10. A robot hand apparatus according to claim 6, wherein

the finger mechanism is held by an elastic device fixed to the base, and the finger mechanism is pushed by the elastic device in a direction apart from the adjoining finger mechanism.